



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,084	04/30/2001	John Mantegna	06975-207001	1606
26171	7590	04/05/2006	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			LAZARO, DAVID R	
			ART UNIT	PAPER NUMBER
			2155	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/845,084

Applicant(s)

MANTEGNA ET AL.

Examiner

David Lazaro

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed 02/21/06.
2. Claims 1, 10 and 17 were amended.
3. Claims 24-26 are newly added - note Number of Claims section below.
4. Claims 1-26 are pending in this office action.

Response to Amendment

5. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Numbering of Claims

7. The claims are objected to as the numbering of the newly added claims are not in compliance with §1.126. When claims are added, they must be numbered by the applicant consecutively beginning with the number next following the highest numbered claim previously presented (whether entered or not).
8. As such, the examiner now considers the newly added claim 23 to be claim 24, the newly added claim 24 is now claim 25, and the newly added claim 25 is now claim 26.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 3-5, 10, 12-14, 17, 19-21 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,825,771 by Cohen et al. (Cohen) in view of U.S. Patent 6,434,606 by Borella et al. (Borella).

11. With respect to Claims 1, 10 and 17, Cohen teaches a method (and corresponding computer program and computer system) for temporal drift correction in a real-time electronic communication comprising:

measuring a size of a receiving data buffer (Col. 8 lines 10-27);

comparing the measured size of the receiving data buffer to a predetermined nominal data buffer size to produce a comparison result (Col. 8 lines 56-64);

determining a parameter that relates to and amplifies the temporal drift based on the comparison result (Col. 8 line 56 - Col. 9 line 20);

determining, based on the determined parameters, a number of samples to be inserted in or removed from a playback data block (Col. 8 line 56 - Col. 9 line 20); and

modifying the playback data block by inserting or removing a number of samples that is based on the determined number of samples (Col. 8 line 56 - Col. 9 line 20).

Cohen does not explicitly disclose weighting the comparison result. Borella teaches weighting of computational results in a method for buffer optimization.

Art Unit: 2155.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method (and corresponding computer program and computer system) disclosed by Cohen and modify it as indicated by Borella such that it further comprises weighting the comparison result; and determining a parameter that relates to and amplifies the temporal drift based on the weighted comparison result.

One would be motivated to have this, as it is advantageous to smooth out the effects of transient conditions, particularly when the network behavior is changing dramatically when evaluating buffer characteristics (In Borella: Col. 19 lines 29-40).

12. With respect to Claims 3, 12 and 19, Cohen further teaches wherein measuring the size of the receiving data buffer comprises measuring an instantaneous size of the receiving data buffer (In Cohen: Col. 8 lines 18-27, noting the wording "Typically" and also that an average still requires instantaneous values to be averaged).

13. With respect to Claims 4, 13 and 20, Cohen further teaches wherein measuring the size of the receiving data buffer comprises: measuring an instantaneous communication delay associated with the receiving data buffer two or more times; and averaging the measurements (In Cohen: Col. 8 lines 18-27).

14. With respect to Claim 5, 14 and 21, Cohen further teaches wherein the real-time electronic communication includes an audio communication (In Cohen: see abstract).

15. With respect to Claims 24, 25 and 26, Cohen further teaches wherein the samples are not associated with a timestamp (In Cohen: Col. 8 line 10 - Col. 9 line 20 - noting that timestamps are not relied up or disclosed).

16. Claims 2, 6-9, 11, 15, 16, 18, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Borella as applied to claims 1, 5, 10, 14, 17 and 21 above, and further in view of "Skew Detection and Compensation for Internet Audio Applications" by Hodson et al. (Hodson).

17. With respect to Claims 2, 11 and 18, Cohen in view of Borella is silent as to the audible effect of modifying the samples and therefore does not explicitly disclose wherein the number of samples is modified without introducing audible artifacts.

Hodson teaches a technique of modifying a number of samples without introducing audible artifacts (Page 2, section 3 and 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Cohen in view of Borella and modify them as indicated by Hodson, such that the method (and corresponding computer program and computer system) further comprises wherein the number of samples is modified without introducing audible artifacts. One would be motivated to have this, as it is desirable to modify samples without introducing audible artifacts (In Hodson: Page 2 sections 3 and 4).

18. With respect to Claims 6, 15 and 22, Cohen in view of Borella does not explicitly disclose wherein modifying the number of samples comprises performing heuristic resampling of the playback data block.

Art Unit: 2155

Hodson teaches a technique of modifying a number of samples through heuristic resampling so that modifications do not produce audible artifacts (Page 2, section 3 and 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Cohen in view of Borella and modify them as indicated by Hodson, such that the method (and corresponding computer program and computer system) further comprises wherein modifying the number of samples comprises performing heuristic resampling of the playback data block. One would be motivated to have this, as it is desirable to modify samples without introducing audible artifacts (In Hodson: Page 2 sections 3 and 4).

19. With respect to Claims 7, 16 and 23, Cohen in view of Borella does not explicitly disclose wherein performing heuristic resampling comprises: analyzing multiple consecutive samples of audio data in the playback data block; identifying consecutive samples with minimal variation in a parameter of their data; and adjusting the number of samples in the identified consecutive samples.

Hodson teaches a technique of modifying a number of samples through heuristic resampling so that modifications do not produce audible artifacts (Page 2, section 3 and 4). The heuristic resampling comprises analyzing multiple consecutive samples of audio data in the playback data block; identifying consecutive samples with minimal variation in a parameter of their data; and adjusting the number of samples in the identified consecutive samples (Page 2, section 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Cohen in view of Borella and modify them as indicated by Hodson, such that the method (and corresponding computer program and computer system) further comprises wherein performing heuristic resampling comprises: analyzing multiple consecutive samples of audio data in the playback data block; identifying consecutive samples with minimal variation in a parameter of their data; and adjusting the number of samples in the identified consecutive samples. One would be motivated to have this, as it is desirable to modify samples without introducing audible artifacts (In Hodson: Page 2 sections 3 and 4).

20. With respect to Claim 8, Cohen in view of Borella does not explicitly disclose wherein adjusting the number of samples comprises removing a sample from the identified consecutive samples.

Hodson teaches a technique of modifying a number of samples through heuristic resampling so that modifications do not produce audible artifacts (Page 2, section 3 and 4). In the heuristic resampling, samples are adjusted by either removing a sample from identified consecutive samples or adding a sample to the identified consecutive samples (Page 2 Section 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Cohen in view of Borella and modify them as indicated by Hodson, such that the method further comprises wherein adjusting the number of samples comprises removing a sample from the identified consecutive

Art Unit: 2155

samples. One would be motivated to have this, as it is desirable to modify samples without introducing audible artifacts (In Hodson: Page 2 sections 3 and 4).

21. With respect to Claim 9, Cohen in view of Borella does not explicitly disclose wherein adjusting the number of samples comprises adding a sample from the identified consecutive samples.

Hodson teaches a technique of modifying a number of samples through heuristic resampling so that modifications do not produce audible artifacts (Page 2, section 3 and 4). In the heuristic resampling, samples are adjusted by either removing a sample from identified consecutive samples or adding a sample to the identified consecutive samples (Page 2 Section 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Cohen in view of Borella and modify them as indicated by Hodson, such that the method further comprises wherein adjusting the number of samples comprises adding a sample from the identified consecutive samples. One would be motivated to have this, as it is desirable to modify samples without introducing audible artifacts (In Hodson: Page 2 sections 3 and 4).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

23. U.S. Patent 6,212,206 by Ketcham "Methods and computer executable instructions for improving communications in a packet switching network" April 3, 2001.

Discloses adjusting a jitter buffer based on arrival times versus jitter estimate times.

24. U.S. Patent 6,377,931 by Shlomot "Speech manipulation for continuous speech playback over a packet network" April 23, 2002. Discloses adjusting the rate at which packets are played out of a buffer based on the capacity of the buffer.

25. U.S. Patent 6,665,728 by Graumann et al. "Establishing optimal latency in streaming data applications that use data packets" December 16, 2003. Discloses adjusting latency based on an estimate determined by an under-run forecasting mechanism.

26. U.S. Patent 6,683,889 by Shaffer et al. "Apparatus and method for adaptive jitter buffers" January 27, 2004. Discloses dynamic adjustment of jitter buffer depth. Uses an upper and lower threshold in relation to buffer capacity. Does not explicitly state a mechanism for a determining an actual number samples to adjust.

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


Art Unit: 2155


mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Lazaro
March 31, 2006


SALEH NAJJAR
SUPERVISORY PATENT EXAMINER